



Atty. Dkt. No. 023971-0407

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Takahiro HAMADA *et al.*  
Title: FUEL INJECTION VALVE  
Appl. No.: 10/823,773  
Filing Date: 04/14/2004  
Examiner: Unassigned  
Art Unit: 3747

**INFORMATION DISCLOSURE STATEMENT**  
**UNDER 37 CFR §1.56**

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Sir:

Submitted herewith on Form PTO/SB/08 is a listing of documents known to Applicants in order to comply with Applicants' duty of disclosure pursuant to 37 CFR §1.56.

A copy of each non-U.S. patent document and each non-patent document is being submitted to comply with the provisions of 37 CFR §1.97 and §1.98.

The submission of any document herewith, which is not a statutory bar, is not intended as an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicants do not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference any document which is determined to be a *prima facie* art reference against the claims of the present application.

**TIMING OF THE DISCLOSURE**

The listed documents are being submitted in compliance with 37 CFR §1.97(b), before the mailing date of the first Office Action on the merits.

**RELEVANCE OF EACH DOCUMENT**

Document B701 is a doctoral dissertation entitled "Tribological Properties of Hydrogenated and Hydrogen-Free Diamond-Like Carbon Coatings."

Documents B1-B468 were identified in a patent/literature search requested by Applicants.

Document B469 is a copy of the search results which identified documents B1-B468.

Documents B470-B649 were cited in corresponding U.S. applications.

Documents B650-B687 are other documents known to Applicants.

Documents B688-B700 are Applicants' related applications that were not already identified in documents B1-B687.

Applicants respectfully request that each listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

Respectfully submitted,

Date 1/19/06

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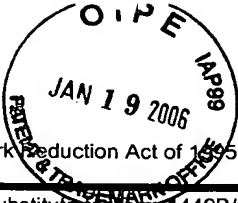
Registration No. 25,479

Paul D. Strain

Attorney for Applicants

Registration No. 47,369

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.



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Sheet 1 of 28

**Complete if Known**

Application Number	10/823,773
Filing Date	April 14, 2004
First Named Inventor	Takahiro Hamada
Group Art Unit	3747
Examiner Name	Unassigned
Attorney Docket Number	023971-0407

**U.S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
	B1	6,468,642	B1	Bray et al.	10-22-2002	
	B2	6,205,291	B1	Hughes et al.	03-20-2001	
	B3	6,822,788	B2	Blitstein	11-23-2004	
	B4	6,592,519	B1	Martinez	07-15-2003	
	B5	6,572,935	B1	He et al.	06-03-2003	
	B6	6,666,328	B2	Sykora	12-23-2003	
	B7	6,338,881	B1	Sellschopp et al.	01-15-2002	
	B8	4,981,717		Thaler	01-01-1991	
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	B10	2003/0168323	A1	Frost	09-11-2003	
	B11	6,761,532	B2	Capone et al.	07-13-2004	
	B12	2005/0061636	A1	Frost et al.	03-24-2005	
	B13	6,882,094	B2	Dimitrijevic et al.	04-19-2005	
	B14	5,461,648		Naufflett et al.	10-24-1995	
	B15	5,299,937		Gow	04-05-1994	
	B16	6,543,394	B2	Tinney	04-08-2003	
	B17	6,439,845	B1	Veres	08-27-2002	
	B18	6,666,671	B1	Olver et al.	12-23-2003	
	B19	6,273,793	B1	Liners et al.	08-14-2001	
	B20	5,458,754		Sathrum et al.	10-17-1995	
	B21	4,988,421		Drawl et al.	01-29-1991	
	B22	6,311,524	B1	Brennan, III et al.	11-06-2001	
	B23	6,296,552	B1	Boutaghou et al.	10-02-2001	
	B24	5,927,897		Attar	07-27-1999	
	B25	4,980,021		Kitamura et al.	12-25-1990	
	B26	2005/0001201	A1	Bocko et al.	01-06-2005	
	B27	6,880,469	B2	Frost	04-19-2005	
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	B32	6,572,937	B2	Hakovirta et al.	06-03-2003	
	B33	2002/0031987	A1	Liners et al.	03-14-2002	
	B34	2002/0026899	A1	McLaughlin et al.	03-07-2002	
	B35	6,494,881	B1	Bales et al.	12-17-2002	
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	B38	2001/0036800	A1	Liners et al.	11-01-2001	
	B39	6,309,283	B1	Liners et al.	10-30-2001	
	B40	6,305,416	B1	Snel et al.	10-23-2001	

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	B41	6,139,964		Sathrum et al.	10-31-2000	
	B42	6,016,000		Moslehi	01-18-2000	
	B43	5,947,710		Cooper et al.	09-07-1999	
	B44	5,901,021		Hirano et al.	05-04-1999	
	B45	5,881,444		Schaefer et al.	03-16-1999	
	B46	5,824,387		Boutaghou et al.	10-20-1998	
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	B49	4,992,082		Drawl et al.	02-12-1991	
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	B51	2004/0223256	A1	Feng et al.	11-11-2004	
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	B57	6,733,513	B2	Boyle et al.	05-11-2004	
	B58	6,695,865	B2	Boyle et al.	02-24-2004	
	B59	6,656,329	B1	Ma et al.	12-02-2003	
	B60	6,557,968	B2	Lee et al.	05-06-2003	
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	B73	5,975,686		Hauck et al.	11-02-1999	
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	B81	5,401,543		O'Neill et al.	03-28-1995	
	B82	5,359,170		Chen et al.	10-25-1994	
	B83	5,332,348		Lemelson	07-26-1994	
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	B89	6,872,203	B2	Shafirstein et al.	03-29-2005	
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	B91	6,865,952	B2	Bills et al.	03-15-2005	
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	B94	6,855,237	B2	Kolpakov et al.	02-15-2005	
	B95	6,849,085	B2	Marton	02-01-2005	
	B96	2004/0244539	A1	Korb et al.	12-09-2004	
	B97	2004/0168326	A1	Korb et al.	09-02-2004	
	B98	2004/0133301	A1	Van Doren et al.	07-08-2004	
	B99	2004/0115435	A1	Griffin et al.	06-17-2004	
	B100	2004/0105806	A1	Griffin et al.	06-03-2004	
	B101	2004/0011900	A1	Gebhardt et al.	01-22-2004	
	B102	2004/0010068	A1	Doren et al.	01-15-2004	
	B103	2004/0008406	A1	Blitstein	01-15-2004	
	B104	2004/0003638	A1	Schaefer et al.	01-08-2004	
	B105	6,821,189	B1	Coad et al.	11-23-2004	
	B106	6,818,029	B2	Myoung et al.	11-16-2004	
	B107	6,799,468	B2	Borenstein	10-05-2004	
	B108	6,797,326	B2	Griffin et al.	09-28-2004	
	B109	6,780,177	B2	Shafirstein et al.	08-24-2004	
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	B111	6,749,033	B2	Griffin et al.	06-15-2004	
	B112	6,739,214	B2	Griffin et al.	05-25-2004	
	B113	6,729,527	B2	Sonnenreich et al.	05-04-2004	
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	B115	6,701,627	B2	Korb et al.	03-09-2004	
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	B117	6,684,759	B1	Gorokhovsky	02-03-2004	
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	B119	2003/0159919	A1	Fairbairn et al.	08-28-2003	
	B120	2003/0114094	A1	Myoung et al.	06-19-2003	

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		Number	Kind Code <sup>2</sup> (if known)			
	B121	2003/0069632	A1	De Scheerder et al.	04-10-2003	
	B122	2003/0037640	A1	Griffin et al.	02-27-2003	
	B123	2003/0036341	A1	Myoung et al.	02-20-2003	
	B124	2003/0035958	A1	Griffin et al.	02-20-2003	
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	B126	2003/0034182	A1	Griffin et al.	02-20-2003	
	B127	2003/0021995	A1	Griffin et al.	01-30-2003	
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	B130	2003/0012234	A1	Watson et al.	01-16-2003	
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	B133	6,637,528	B2	Nishiyama et al.	10-28-2003	
	B134	6,601,662	B2	Matthias et al.	08-05-2003	
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	B139	6,572,651	B1	DeScheerder et al.	06-03-2003	
	B140	6,570,172	B2	Kim et al.	05-27-2003	
	B141	6,562,462	B2	Griffin et al.	05-13-2003	
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	B152	6,452,752	B1	Boutaghou	09-17-2002	
	B153	6,439,986	B1	Myoung et al.	08-27-2002	
	B154	6,401,058	B1	Akalin et al.	06-04-2002	
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	B156	6,368,676	B1	Gaudreau et al.	04-09-2002	
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	B158	6,324,060	B1	Hsu	11-27-2001	
	B159	6,322,431	B1	Schaenzer et al.	11-27-2001	
	B160	6,316,734	B1	Yang	11-13-2001	

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	B161	6,293,648	B1	Anderson	09-25-2001	
	B162	6,274,220	B1	Tsukuda et al.	08-14-2001	
	B163	6,238,839	B1	Tomita et al.	05-29-2001	
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	B169	6,173,913	B1	Shafer et al.	01-16-2001	
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	B172	6,159,558		Wolfe et al.	12-12-2000	
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	B178	6,083,313		Venkatraman et al.	07-04-2000	
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	B180	6,059,830		Lippincott, III et al.	05-09-2000	
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 STATEMENT BY APPLICANT**

Date Submitted: January 19, 2006

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Sheet 6 of 28

**Complete if Known**

Application Number	10/823,773
Filing Date	April 14, 2004
First Named Inventor	Takahiro Hamada
Group Art Unit	3747
Examiner Name	Unassigned
Attorney Docket Number	023971-0407

**U.S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
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Sheet <span style="border: 1px solid black; padding: 0 5px;">7</span> of <span style="border: 1px solid black; padding: 0 5px;">28</span>				<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">Application Number</td> <td>10/823,773</td> </tr> <tr> <td>Filing Date</td> <td>April 14, 2004</td> </tr> <tr> <td>First Named Inventor</td> <td>Takahiro Hamada</td> </tr> <tr> <td>Group Art Unit</td> <td>3747</td> </tr> <tr> <td>Examiner Name</td> <td>Unassigned</td> </tr> <tr> <td>Attorney Docket Number</td> <td>023971-0407</td> </tr> </table>		Application Number	10/823,773	Filing Date	April 14, 2004	First Named Inventor	Takahiro Hamada	Group Art Unit	3747	Examiner Name	Unassigned	Attorney Docket Number	023971-0407
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		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
	B236	WO	02/085237	A2	General Plasma, LLC	10-31-2002		
	B237	WO	00/56393	A1	Second Sight, LLC	09-28-2000		
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	B243	WO	03/091758	A2	Sabeus Photonics, Inc.	11-06-2003		
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	B246	WO	03/076309	A2	Frost Links, Inc	09-18-2003		
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	B253	WO	2005/016620	A2	Stankiewicz GmbH	02-24-2005		
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	B255	WO	96/12389	A1	EDSI, Inc.	04-25-1996		
	B256	WO	2004/068530	A1	3M Innovative Properties Company	08-12-2004		
	B257	WO	2004/067466	A1	3M Innovative Properties Company	08-12-2004		
	B258	WO	03/105134	A1	Seagate Technology LLC	12-18-2003		
	B259	WO	01/40537	A1	The Regents of the University of California	06-07-2001		
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	B261	WO	99/54934	A1	CVC Products, Inc.	10-28-1999		

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**INFORMATION DISCLOSURE  
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Date Submitted: January 19, 2006

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Sheet 8 of 28

**Complete if Known**

Application Number	10/823,773
Filing Date	April 14, 2004
First Named Inventor	Takahiro Hamada
Group Art Unit	3747
Examiner Name	Unassigned
Attorney Docket Number	023971-0407

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	B281	WO	2004/043631	A1	Honeywell International Inc.	05-27-2004		
	B282	WO	2004/024206	A1	Estrogen Vascular Technology, LCC	03-25-2004		
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	B287	WO	03/054876	A1	Seagate Technology, LLC	07-03-2003		
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Date Submitted: January 19, 2006

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Sheet 9 of 28

**Complete if Known**

Application Number 10/823,773  
 Filing Date April 14, 2004  
 First Named Inventor Takahiro Hamada  
 Group Art Unit 3747  
 Examiner Name Unassigned  
 Attorney Docket Number 023971-0407

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Group Art Unit	3747
Examiner Name	Unassigned
Attorney Docket Number	023971-0407

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	B317	WO	95/20253	A2	QQC, Inc.	07-27-1995		
	B318	EP	0652301	A1	Minnesota Mining and Manufacturing Company	05-10-1995		
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	B336	WO	2004/036292	A2	Intellimats, LLC.	04-29-2004		
	B337	WO	2004/036169	A1	Helix Technology Corporation	04-29-2004		
	B338	WO	2004/026500	A2	Enventure Global Technology	04-01-2004		
	B339	WO	2004/026359	A1	Advanced Cardiovascular Systems, Inc.	04-01-2004		
	B340	WO	2004/019809	A2	Board of Trustees of the University of Arkansas	03-11-2004		
	B341	EP	1481699	A1	Goldowsky	12-01-2004		
	B342	EP	1475557	A1	Dresser-Rand Company	11-10-2004		

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Date Submitted: January 19, 2006

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Sheet 11 of 28

**Complete if Known**

Application Number	10/823,773
Filing Date	April 14, 2004
First Named Inventor	Takahiro Hamada
Group Art Unit	3747
Examiner Name	Unassigned
Attorney Docket Number	023971-0407

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Documents	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
	B343	EP	1445119	A1	Fuji Photo Film Co., Ltd.	08-11-2004		
	B344	EP	1378271	A1	Mizuno Corporation	01-07-2004		
	B345	EP	0862395	B1	Wright Medical Technology, Inc.	04-07-2004		
	B346	EP	0842754	B1	Toray Industries, Inc.	03-31-2004		
	B347	EP	1078736	B1	Fuji Photo Film Co., Ltd.	01-28-2004		
	B348	WO	2003/095009	A1	Perlos OYJ	11-20-2003		
	B349	WO	2003/046508	A3	Biomicroarrays, Inc.	06-05-2003		
	B350	WO	03/021731	A1	Cymer, Inc.	03-13-2003		
	B351	WO	03/009978	A1	American Saw & Mfg. Company	02-06-2003		
	B352	EP	1365141	A1	Siemens Diesel Systems Technology VDO	11-26-2003		
	B353	EP	1340605	A1	Mitsuboshi Diamond Industrial Co., Ltd.	09-03-2003		
	B354	EP	1083946	B1	Blue Medical Devices B.V.	12-03-2003		
	B355	EP	0882759	B1	Toray Industries, Inc.	06-04-2003		
	B356	WO	02/090461	A1	Gorokhovskiy, Vladimir	11-14-2002		
	B357	WO	02/062714	A2	Honeywell, Inc.	08-15-2002		
	B358	WO	02/054454	A2	Lam Research Corporation	07-11-2002		
	B359	WO	02/44440	A1	Essilor International	06-06-2002		
	B360	WO	02/32625	A2	3M Innovative Properties Company	04-25-2002		
	B361	WO	02/24603	A1	Schlumberger Canada Limited	03-28-2002		
	B362	WO	02/24601	A1	Camco International (UK) Limited	03-28-2002		
	B363	WO	02/13188	A1	Koninklijke Philips Electronics N.V.	02-14-2002		
	B364	WO	02/006875	A1	3M Innovative Properties Company	01-24-2002		
	B365	EP	1219464	A2	Fuji Photo Film Co., Ltd.	07-03-2002		
	B366	EP	1190791	A3	Camco International (UK) Limited	04-03-2002		
	B367	EP	0971812	B1	Upper Innovation AB	10-23-2002		
	B368	EP	1018291	B1	Minnesota Mining and Manufacturing Company	10-02-2002		
	B369	EP	0893677	B1	Helix Technology Corporation	01-16-2002		

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Sheet 12 of 28

**Complete if Known**

Application Number	10/823,773
Filing Date	April 14, 2004
First Named Inventor	Takahiro Hamada
Group Art Unit	3747
Examiner Name	Unassigned
Attorney Docket Number	023971-0407

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	B370	WO	00/44032	A1	N.V. Bekaert S.A.	07-27-2000		
	B371	WO	01/80224	A2	Seagate Technology LLC	10-25-2001		
	B372	WO	01/79583	A2	Technology International, Inc.	10-25-2001		
	B373	WO	01/67834	A1	3M Innovative Properties Company	09-13-2001		
	B374	WO	01/63639	A1	Energy Conversion Devices, Inc.	08-30-2001		
	B375	WO	01/59544	A2	Rainbow Technologies B.V., Netherlands	08-16-2001		
	B376	WO	01/47451	A1	New et al.	07-05-2001		
	B377	WO	01/26862	A1	Hunatech Co., Ltd.	04-19-2001		
	B378	WO	01/14736	A1	Caterpillar Inc.	03-01-2001		
	B379	WO	01/006033	A1	Diversified Technologies, Inc.	02-25-2001		
	B380	IE	0990532	A1				Abs
	B381	WO	99/62572	A1	De Scheerder et al.	12-09-1999		
	B382	EP	1078736	A1	Fuji Photo Film Co., Ltd.	02-28-2001		
	B383	EP	1034320	B1	Minnesota Mining and Manufacturing Company	12-19-2001		
	B384	EP	0778902	B1	Minnesota Mining and Manufacturing Company	09-12-2001		
	B385	EP	0850126	B1	Warner-Lambert Company	01-24-2001		
	B386	WO	00/68451	A2	SKION Corporation	11-16-2000		
	B387	WO	00/62327	A2	Gorokhovskiy	10-19-2000		
	B388	WO	00/55385	A1	Teer Coatings Limited	09-21-2000		
	B389	WO	00/35000	A1	CVC Products, Inc.	06-15-2000		
	B390	WO	00/22613	A1	Minnesota Mining And Manufacturing Company	04-20-2000		
	B391	RU	2153782	C1				
	B392	WO	99/29477	A1	Advanced Refractory Technologies, Inc.	06-17-1999		
	B393	EP	0582676	B1	The Gillette Company	03-22-2000		
	B394	WO	99/34385	A1	Alfar International Ltd.	07-08-1999		
	B395	WO	99/27157	A1	Minnesota Mining And Manufacturing Company	06-03-1999		
	B396	WO	99/12404	A1	Minnesota Mining And Manufacturing Company	03/11/1999		

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				<b>Application Number</b>	10/823,773
				<b>Filing Date</b>	April 14, 2004
				<b>First Named Inventor</b>	Takahiro Hamada
				<b>Group Art Unit</b>	3747
				<b>Examiner Name</b>	Unassigned
				<b>Attorney Docket Number</b>	023971-0407

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	B397	WO	99/09547	A1	Seagate Technology, Inc.	02-25-1999		
	B398	GB	2338716		Andrew et al.	12-29-1999		
	B399	EP	0893677	B1	Helix Technology Corp.	01-27-1999		
	B400	EP	0624354	B1	Minnesota Mining and Manufacturing Company	12-08-1999		
	B401	EP	0845154	B1	E.I. Du Pont de Nemours and Company and the Regents of the University of California	11-10-1999		
	B402	EP	0647318	B1	The Victoria University of Manchester	03-03-1999		
	B403	EP	0624353	B1	Minnesota Mining and Manufacturing Company	02-24-1999		
	B404	EP	0656458	B1	Baker Hughes Incorporated	02-03-1999		
	B405	DE	19825860	A1	Elgan-Diamantwerkzeuge GmbH & Co.	12-16-1999		
	B406	WO	98/47141	A1	Digital Papyrus Corporation	10-22-1998		
	B407	WO	98/12994	A1	Eriksson et al.	04-02-1998		
	B408	WO	98/02715	A1	Phase Metrics	01-22-1998		
	B409	EP	0882759	A1	Toray Industries, Inc.	12-09-1998		
	B410	EP	0842754	A1	Toray Industries, Inc.	05-20-1998		
	B411	WO	97/16138	A1	Wright Medical Technology, Inc.	05-09-1997		
	B412	WO	97/10940	A1	Uponor B.V.	03-27-1997		
	B413	WO	97/10093	A1	Vinidex Tubemakers Pty, Limited	03-20-1997		
	B414	WO	97/07531	A1	E.I. Du Pont De Nemours and Company and The Regents of the University of California	02-27-1997		
	B415	WO	96/05942	A1	Minnesota Mining and Manufacturing Company	02-29-1996		
	B416	EP	0474369	B1	AEA Technology plc	03-05-1997		
	B417	DE	19507086	C2		09-05-1996		
	B418	WO	96/40446	A1	Advanced Refractory Technologies, Inc.	12-19-1996		

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Date Submitted: January 19, 2006

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Sheet 14 of 28

**Complete if Known**

Application Number	10/823,773
Filing Date	April 14, 2004
First Named Inventor	Takahiro Hamada
Group Art Unit	3747
Examiner Name	Unassigned
Attorney Docket Number	023971-0407

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	B419	WO	96/06961	A1	Deposition Sciences, Inc.	03-07-1996		
	B420	WO	96/05333	A1	Minnesota Mining and Manufacturing Company	02-22-1996		
	B421	EP	0656458	A3	Baker Hughes Incorporated	06-07-1995		
	B422	EP	0388800	B1	The Board of Trustees of the Michigan State University	12-27-1996		
	B423	EP	0396603	B1	Suomen Itsenäisyyden Juhlarahasto Sitra	06-26-1996		
	B424	DE	19507086	A1	Danfoss A/S	09-05-1996		
	B425	WO	95/29273	A1	Corbrain N.V.	11-02-1995		
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	B427	EP	0624354	A3	Minnesota Mining And Manufacturing Company	11-17-1994		
	B428	EP	0624353	A3	Minnesota Mining And Manufacturing Company	11-17-1994		
	B429	EP	0378378	B1	Ford Motor Company Limited; Ford France S.A. B.P.; Ford-Werke Aktiengesellschaft	01-04-1995		
	B430	EP	0621136	A2	Xerox Corporation	10-26-1994		
	B431	EP	0619504	A1	Optische Werke G. Rodenstock	10-12-1994		
	B432	WO	9324828	A1	The Victoria University of Manchester	12-09-1993		
	B433	EP	0546824	A1	American Telephone and Telegraph Company	06-16-1993		
	B434	EP	0308143	B1	American Telephone and Telegraph Company	03-22-1989		
	B435	EP	0398985	B1	British Technology Group Limited	11-28-1990		
	B436	WO	9219425	A2	The Gillette Company	11-12-1992		
	B437	WO	9206843	A1	Diamonex, Incorporated	04-30-1992		
	B438	EP	0388800	A2	The Board of Trustees of the Michigan State University	09-26-1990		
	B439	EP	0378378	A1	Ford Motor Company Limited; Ford France S.A. B.P.; Ford-Werke Aktiengesellschaft	07-18-1990		

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				Filing Date	April 14, 2004
				First Named Inventor	Takahiro Hamada
				Group Art Unit	3747
				Examiner Name	Unassigned
Sheet <u>15</u> of <u>28</u>				Attorney Docket Number	023971-0407

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		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
	B440	CA	2009582		McDonnell Douglas Corporation	08-24-1990		
	B441	WO	89/06708	A1	Anttila et al.	07-27-1989		
	B442	WO	89/06707	A1	The National Research Development Corporation	07-27-1989		
	B443	WO	8906338	A1	The Commonwealth of Australia	07-13-1989		
	B444	EP	0308143	A1	American Telephone and Telegraph Company	11-24-1993		
	B445	JP	2001-172766	A2	Sumitomo Electric Industries, Ltd.	06-26-2001		
	B446	JP	2001-93141	A2	Fujitsu Ltd.	04-06-2001		
	B447	JP	2002-265968	A2	LINO, Mitsuhiro	09-18-2002		
	B448	JP	2003-28174	A2	NSK Ltd.	01-29-2003		
	B449	JP	2004-36788	A2	NSK Ltd.	02-05-2004		
	B450	JP	2005-68529	A2	NAKAYAMA, Keiji	03-17-2005		
	B451	JP	9-20981	A2	Toyo Kohan Co. Ltd.	01-21-1997		
	B452	JP	253770	A2	Mitsubishi Electric Corp.	09-30-1997		
	B453	JP	10-298440	A2	Nissin Electric Co., Ltd.	11-10-1998		
	B454	JP	11-292629	A2	Mitsubishi Pencil Co., Ltd.	10-26-1999		
	B455	JP	11-333773	A2	Nissin Electric Co., Ltd.	12-07-1999		
	B456	JP	63-21209	A2	Matsushita Electric Industrial Co., Ltd.	01-28-1988		
	B457	JP	63-288994	A2	Matsushita Electric Industrial Co., Ltd.	11-25-1988		
	B458	RU	2004586	C1	Transnatsionalnaya Mezhotraslevaya Kompaniya	12-15-93		
	B459	SU	1770350	A1	Mitsubishi Electric Corp.	10-23-1992		
	B460	WO	02/24970	A2	Federal-Mogul Burscheid GmbH	03-28-2002		
	B461	WO	2005/014760	A1	Nippon Oil Corporation	02-17-2005		

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				Filing Date	April 14, 2004
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Sheet	16	of	28	Attorney Docket Number	023971-0407

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	B462	GAHLIN, Rickard et al., "ME-C:H Coatings in Motor Vehicles," <u>WEAR</u> 249, 2001, pp. 302-309		
	B463	Hershberger, J., et al., "Evaluation of DLC Coatings for Spark-Ignited, Direct-Injected Fuel Systems," <u>Surface &amp; Coatings Technology</u> , 179, 2004, pages. 237-244		
	B464	Hershberger, J, et al., "Friction and Wear Behavior of Near-Frictionless Carbon Coatings in Formulated Gasolines," <u>Surface &amp; Coating Technology</u> , 183, 2004, pages 111-117		
	B465	Kovalchenko, A., et al., "Friction and Wear Performance of Low-Friction Carbon Coatings Under Oil Lubrication," <u>Energy Technology Div., Argonne National Laboratory</u>		
	B466	Ajayi, O., et al., "Effect of Carbon Coating on Scuffing Performance in Diesel Fuels," <u>Tribology - Transactions</u> , Vol. 44, 2001, pages 298-304		
	B467	Ajayi, O., et al., "Effect of Thin-Film Coating on Wear in EGR-Contaminated Oil, Energy Technology Div., Argonne National Laboratory		
	B468	Fujimori, N., et al., "Characterization of Conducting Diamond Films," <u>Vacuum</u> , Vol. 36, Nos. 1-3, 1996, pages 99-102		
	B469	Patent/Literature Search, Bawa Biotechnology Consulting, LLC, June 3, 2005 (201 pages)		

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				Application Number	10/823,773
				Filing Date	April 14, 2004
				First Named Inventor	Takahiro Hamada
				Group Art Unit	3747
				Examiner Name	Unassigned
Sheet	17	of	28	Attorney Docket Number	023971-0407

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				<b>Attorney Docket Number</b>	023971-0407
Sheet	18	of	28		

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		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
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		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
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Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.		T <sup>6</sup>
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				Group Art Unit	3747
				Examiner Name	Unassigned
Sheet	22	of	28	Attorney Docket Number	023971-0407

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>6</sup>
	B621	API Motor Oil Guide, "Which Oil is Right for You", American Petroleum Institute, Copyright 2002	
	B622	"Carbon Steels for Machine Structural Use", Japanese Industrial Standard (JIS G 4051), 1979, pages 1381-1383.	
	B623	"Carbon Steels for Machine Structural Use", Japanese Industrial Standard (JIS G 4051), 1979, pages 1-10.	
	B624	"Chromium Molybdenum Steels," Japanese Industrial Standard (JIS G 4105), 1979, pages 1-11 (with Translation)	
	B625	"Chromium Steels," Japanese Industrial Standard (JIS G 4104), 1979, pages 1-9.	
	B626	Database WPI, November 28, 2000, Derwent Publications, Ltd., AN 2000640583, XP002240184, JP 2000-327484, 28-11-2000.	
	B627	Dr. Marx, "Surfaces and Contact Mechanics", XP-002233233, Google, Retrieved from the Internet, 2003-03-03, pgs 1-18.	
	B628	Engine Oil Viscosity Classification – SAE J300 revised April 1997, pg. 133.	
	B629	"Grey iron castings", Japanese Industrial Standard (JIS G 5501), pages 2075-2077	
	B630	Japanese Industrial Standard, "High Carbon Chromium Bearing Steels", JIS G 4805, 1999, pages 1-31 (with translation).	

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  Date Submitted: January 19, 2006  <i>(use as many sheets as necessary)</i>				Application Number	10/823,773
				Filing Date	April 14, 2004
				First Named Inventor	Takahiro Hamada
				Group Art Unit	3747
				Examiner Name	Unassigned
Sheet	23	of	28	Attorney Docket Number	023971-0407

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	B631	International Standard "Application of Carbides for Machining by Chip Removal - Designation of the Main Groups of Chip Removal and Groups of Application," ISO 513, (1975), pp. 67-69		
	B632	International Standard, "Petroleum products - Determination of base number - Perchloric acid potentiometric titration method", ISO 3771, second edition 8-15-1994, pages 1-8		
	B633	Japanese Industrial Standard, "Structural Steels with Specified Hardenability Bands", JIS G 4052, 1979, pages 2414, 2415, 1390-1403, 1410 and 1411.		
	B634	JIS Japanese Industrial Standard; "Surface Roughness - Definitions and Designation"; JIS B 0601; 1994. (w/Translation)		
	B635	JIS Japanese Industrial Standard; "Vickers Hardness Test - Test Method"; JIS Z 2244; 1998; (w/Translation).		
	B636	Japanese Industrial Standard, 2001, no. B 0601.		
	B637	K. Holmberg et al., "Tribological Characteristics of Diamond-like Carbon Coatings," VTT Symposium, Technical Research Centre of Finland, XP000570636, 1994, pages 24-238.		
	B638	Kano et al., "Friction Characteristics of a Hard Carbon Film in Engine Oil, (No. 2) (Surface Analysis Result of Sliding Surface)," Japan Tribology Congress 1999, 5, pages 11-12.		

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				Application Number	10/823,773
Sheet 24 of 28				Filing Date	April 14, 2004
				First Named Inventor	Takahiro Hamada
				Group Art Unit	3747
				Examiner Name	Unassigned
				Attorney Docket Number	023971-0407

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	B639	M. KANO et al., "The Effect of ZDDP and MODTC Additives on Friction Properties of DLC and Steel Cam Follower in Engine Oil", Abstracts of Papers from 2nd World Tribology Congress, September 3-7, 2001, page 342.		
	B640	Patent Abstracts of Japan, Vol. 1996, No. 09, 30 September 1996, JP 08-128448, 21 May 1996.		
	B641	Patent Abstracts of Japan, Vol. 2000, No. 01, 31 January 2000, JP 11-287329, 19 October 1999.		
	B642	Patent Abstracts of Japan, Vol. 2000, No. 09, 13 October 2000, JP 2000-170768, 20 June 2000.		
	B643	PCT/IB2004/002552		
	B644	"Stainless Steel Bars", Japanese Industrial Standard (JIS G 4303), pages 1457-1477.		
	B645	"Standard Practice for Codification of Certain Nonferrous Metals and Alloys, Cast and Wrought <sup>1</sup> ", ASTM International, Designation: B 275-02, June 2002, pages 1-7.		
	B646	"Standard Test Method for Calibration and Operation of the Falex Block-on-Ring Friction and Wear Testing Machine", ASTM Designation: D2714 – 88, 01/1989, pages 383-386.		

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				Filing Date	April 14, 2004
				First Named Inventor	Takahiro Hamada
				Group Art Unit	3747
				Examiner Name	Unassigned
				Attorney Docket Number	023971-0407
Sheet	25	of	28		

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	B647	"Standard Test Method for Separation of Representative Aromatics and Nonaromatics Fractions of High-Boiling Oils by Elution Chromatography", ASTM Designation: D 2549 – 91 (Reapproved 1995), pages 895-900.	
	B648	STEVE J. BULL et al., "High-Performance Diamond and Diamond-like Coatings", JOM, April 1995, pages 16-19, Vol. 47, No. 4, XP 000500980	
	B649	Patent Abstracts of Japan, Vol. 2003, No. 12, 5 December 2003, JP 2004-155891, 3 June 2004	

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				Filing Date	April 14, 2004
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				Group Art Unit	3747
				Examiner Name	Unassigned
Sheet 26 of 28				Attorney Docket Number	023971-0407

**U.S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
	B650	4,933,058		Bache et al.	06-12-1990	
	B651	5,032,243		Bache et al.	07-16-1991	
	B652	5,295,305		Hahn et al.	03-22-1994	
	B653	5,205,305		Yamakita	04-27-1993	
	B654	5,497,550		Trotta et al.	03-12-1996	
	B655	5,669,144		Hahn et al.	09-23-1997	
	B656	6,684,513	B1	Clipstone et al.	02-03-2004	
	B657	6,866,894	B2	Trankiem et al.	03-15-2005	
	B658	5,040,501		Lemelson	08-20-1991	
	B659	5,067,826		Lemelson	11-26-1991	
	B660	5,284,394		Lemelson	02-08-1994	
	B661	5,714,202		Lemelson et al.	02-03-1998	
	B662	6,099,976		Lemelson et al.	08-08-2000	
	B663	5,096,352		Lemelson	03-17-1992	
	B664	5,288,556		Lemelson	02-22-1994	
	B665	5,456,406		Lemelson	10-10-1995	
	B666	5,462,772		Lemelson	10-31-1995	
	B667	5,616,372		Conley et al.	04-01-1997	
	B668	5,688,557		Lemelson et al.	11-18-1997	
	B669	5,740,941		Lemelson	04-21-1998	
	B670	5,786,038		Conley et al.	07-28-1998	
	B671	5,794,801		Lemelson	08-18-1998	
	B672	6,165,616		Lemelson et al.	12-26-2000	
	B673	4,367,130		Lemelson	01-04-1983	
	B674	4,385,880		Lemelson	05-31-1983	
	B675	4,702,808		Lemelson	10-27-1987	
	B676	4,859,493		Lemelson	08-22-1989	
	B677	4,874,596		Lemelson	10-17-1989	
	B678	5,021,628		Lemelson	06-04-1991	
	B679	5,131,941		Lemelson	07-21-1992	
	B680	5,552,675		Lemelson	09-03-1996	
	B681	5,628,881		Lemelson	05-13-1997	
	B682	5,871,805		Lemelson	02-16-1999	
	B683	4,755,237		Lemelson	07-05-1988	
	B684	5,255,929		Lemelson	10-26-1993	
	B685	5,360,227		Lemelson	11-01-1994	
	B686	5,866,195		Lemelson	02-02-1999	
	B687	6,969,198	B2	Konishi et al.	11-29-2005	
	B688	2004/0261614	A1	Hamada et al.	12-30-2004	
	B689	2004/0241448	A1	Kano et al.	12-02-2004	

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	B690	2004/0242435	A1	Nishimura et al.	12-02-2004	
	B691	2005/0005892	A1	Nishimura et al.	01-13-2005	
	B692	2005/0084390	A1	Ueno et al.	04-21-2005	
	B693	2005/0089685	A1	Hamada et al.	04-28-2005	
	B694	2005/0100701	A1	Hamada et al.	05-12-2005	
	B695	2005/0064196	A1	Martin et al.	03-24-2005	
	B696	2005/0025975	A1	Okamoto et al.	02-03-2005	
	B697	2005/0056241	A1	Nomura et al.	03-17-2005	
	B698	2005/0082139	A1	Ishikawa et al.	04-21-2005	
	B699	2005/0188942		Hamada et al.	09-01-2005	
	B700	10/911,741		Ueno	05-05-2004	

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	B701	RONKAINEN, HELENA, "Tribological Properties of Hydrogenated and Hydrogen-Free Diamond-Like Carbon Coatings," Disseration for the Degree of Doctor of Science in Technology, VTT Publications No. 434	

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